DETAILED ACTION

1.   This Office Action is in response to the Amendments filed on 06/12/2008. Claims

1-3, 5-25, 27-31, 34, and 35 allowed with claims 4 and 26 being cancelled, claims 32

and 33 cancelled via Examiner's Amendment.

2.   All previous objections and rejections directed to the Applicant's disclosure and

claims not discussed in this Office Action have been withdrawn by the Examiner.

3.   The examiner's amendment described below was discussed and authorized by

the applicant in a telephone interview conducted on June 26 and June 27, 2008, where

claims 32 and 33 were cancelled.

EXAMINER'S AMENDMENT

5.   Cancel claim 32 and 33. Authorization for cancelling these claims was given in a

telephone interview with Kerry Sisselman on June 27, 2008 as the claims consisted of

non-patentable subject matter, which was previously rejected in an earlier Office Action

dated 02/14/2008.

6.   An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

        The application has been amended as follows:

        Abstract: Replace the Abstract from "In processing a multi-channel audio signal

having at least three original channels, a first downmix channel and a second downmix

channel are provided, which are derived from the original channels. For a selected original channel of the original channels, channel side information are calculated such that a downmix channel or a combined downmix channel including the first and the second downmix channels, when weighted using the channel side information, results in an approximation of the selected original channel. The channel side information and the first and second downmix channels form output data to be transmitted to a decoder, which, in case of a low level decoder only decodes the first and second downmix channels or, in case of a high level decoder provides a full multi-channel audio signal based on the downmix channels and the channel side information. Since the channel side information only occupy a low number of bits, and since the decoder does not use dematrixing, an efficient and high quality multi-channel extension for stereo players and enhanced multi-channel players is obtained." to -- In processing a multi-channel audio signal having at least three original channels, a first downmix channel and a second downmix channel are provided, which are derived from the original channels. For a selected original channel of the original channels, channel side information are calculated such that a downmix channel or a combined downmix channel including the first and the second downmix channels, when weighted using the channel side information, results in an approximation of the selected original channel. The channel side information and the first and second downmix channels form output data to be transmitted to a decoder, which, in case of a low level decoder only decodes the first and second downmix channels or, in case of a high level decoder provides a full multi-

channel audio signal based on the downmix channels and the channel side

information....--.

Title: Replace the Title from "Compatible Multi-Channel Coding/Decoding" to –

Compatible Multi-channel Coding/Decoding by Weighting the Downmix Channel--.

Reasons for Allowance

7.   Claims 1-3, 5-25, 27-31, 34, and 35 are allowed

8.   The following is an examiner's statement of reasons for allowance:

The closest prior art of record, Herre *et al.* (US 5,701,346) discloses a method

and system of coding audio signals by the use of a joint stereo coder for coding the left,

right, center and surround channels to produce a simulated decoded signal. Further,

Herre teaches the use of a compatibility matrix to form the compatible or downmix

channels, which are then weighted to preserve the energy of the signal, but Herre *et al.*

does not teach "joint stereo coding using a downmix channel … and using as in input

channel the selected original channel…" (claims 1) or "calculating channel side

information for the right or left channel using the left or right downmix channel…

reconstruct an approximation for the center channel using channel side information for

the center channel and the combined downmix channel" (claim 21, 22, 27, 28, 29, 30,

31, 34, 35). Thus, independent claims 1, 21, 22, 27-29, 30, 31, 34, and 35 are allowable

over the prior art of record because the cited prior art alone or in combination, does not

fairly suggest or disclose the claimed combination of features.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Herre (US 5,812,971) is cited to disclose joint stereo coding using temporal envelope shaping. Gbur *et al.* (US 6,341,165) is cited to disclose coding and encoding audio signals using intensity stereo process. Herre *et al.* (US 2005/0157883) is cited to teach the construction of a multi-channel output using an input signal and parametric information. Faller (US 2008/0130904) is cited to disclose coding of spatial audio using side information.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PARAS SHAH whose telephone number is (571)270-1650. The examiner can normally be reached on MON.-THURS. 7:00a.m.-4:00p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571)272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. S./
Examiner, Art Unit 2626

06/30/2008

/Patrick N. Edouard/

Supervisory Patent Examiner, Art Unit 2626